

## REMARKS

### Status Summary

In this Amendment, no claims are added and no claims are canceled. Therefore, upon entry of this Amendment, claims 1-46 will be pending. Claims 7, 21, 25, 38 and 41 have been amended.

### Claim Objections

Claims 7, 21, 25, 38 and 41 have been amended merely to address informalities raised in the Official Action under the rules of the Office. Thus, these amendments were made for reasons unrelated to the statutory requirements for a patent and have not narrowed the scope of the claims. Accordingly, the amendment of these claims does not raise any presumptions regarding, nor trigger the application of the doctrine of prosecution history estoppel to limit the range of equivalents.

### Claim Rejections 35 U.S.C. § 103(a)

Claims 1-3, 7-9, 16, 22, 25, 27, 28, 30, 32, and 44 stand rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,515,985 to Shmulevich et al. (hereinafter, "Shmulevich") in view of U.S. Patent No. 6,178,181 to Glitho (hereinafter, "Glitho") and U.S. Patent No. 6,487,286 to Reaves (hereinafter, "Reaves"). This rejection is respectfully traversed.

Independent claims 1, 25, and 30 have been amended to recite distributed gateway routing elements that send signaling messages of a plurality of different types and determine the quality of service parameters to be included in signaling messages

routed between the distributed gateway routing elements based on the signaling message type. For example, both ISUP and TCAP messages are signaling messages that may be sent by DGREs. The quality of service is determined based on the signaling message type. Providing intelligence at the distributed gateway routing element that allows the distributed gateway routing element to determine the quality of service to be assigned to SS7 signaling message packets based on the signaling message type allows different quality of service values to be assigned to different types of signaling messages, such as ISUP and TCAP messages, for example, based on the time sensitivity of the various message types in accordance with SS7 standards. (See, for example, page 20, ll. 16-19 and page 21, ll. 13-16 of the present specification.)

The Examiner contends in paragraph 3 of the Official Action that Shmulevich discloses setting quality of service parameters based on the message type of each SS7 call signaling message. In particular, the Examiner contends that the quality of service manager in Shmulevich is used for setting a priority for a packet to be routed according to different "service levels." The Examiner then purports that Shmulevich discloses or suggests different quality of service parameters for different signaling message types based on this statement regarding different "service levels," relying on the mere mention of ISUP messages and TCAP messages in Shmulevich. (See paragraph 3 of Official Action.) Applicants respectfully disagree.

The original priority application that lead to Shmulevich, U.S. provisional application no. 60/181,097, defines quality of service in Section 3.11 on page 21 and discloses that packets should be prioritized as follows:

1. Voice packets
2. Signaling packets
3. Data packets

The Shmulevich priority application, a copy of which is attached hereto, therefore discloses a common quality of service level to be used for all signaling packets (level 2 above). Nothing in the Shmulevich priority application discloses or suggests setting quality of service parameters based on a particular signaling message type. There is no indication in Shmulevich (the patent) that Shmulevich's quality of service service levels is anything other than generally assigning a higher quality of service priority level for a voice packet over a signaling packet or data packet, and assigning a higher quality of service priority level for a signaling packet over a data packet, as clearly disclosed in the Shmulevich priority application. In fact, because Applicants' U.S. patent application no. 09/768,881 was filed January 24, 2001, Shmulevich must rely on the disclosure from the Shmulevich priority application in order to have an effective filing date prior to January 24, 2001. As previously noted, the regular U.S. application (application no. 09/777,799) for Shmulevich was filed February 6, 2001, which is after the filing date of the present application. Thus, because the Shmulevich priority application teaches assigning the same quality of service to all signaling message types, any portions of Shmulevich that could be interpreted as assigning different QoS values to different signaling message types are not prior art to the claims of the present application.

Glitho also does not disclose or suggest setting quality of service parameters based on the signaling message type. Applicants agree that Glitho discloses setting quality of service parameters generally. Glitho, however, discloses that the quality of

service parameters are statically configured by the operator via a user interface, without any indication that different quality of services are given to different signaling message types. For example, Glitho discloses:

The heart of the invention is a SCCP-IP mapping function **31** between the IP protocol layer **32** and the SCCP layer **33**. The SCCP-IP mapping function **31** ... maps IP control messages into SS7 MTP control messages. (Col. 3, l. 64 to col. 4, l. 2)

The user interface **34** also enables the system operator to set various IP protocol parameters **42** which cannot be transferred by the SCCP layer. ... The TTL parameter is not known by the SCCP layer. ... The TOS parameter is not known by the SCCP layer. ... The TTL and TOS parameters are utilized by the SCCP-IP mapping function **31** to reformat the SS7 messages received from the SCCP layer, in order to send them through the IP network. (Col. 4, ll. 37-56.)

There is absolutely no teaching or suggestion in Glitho that distributed gateway routing elements determine quality of service parameters to be included in SS7 call signaling messages based on the signaling message type. In contrast, Glitho discloses that the TTL and TOS parameters must be statically configured by the operator and are included only in a single message type, namely SCCP messages, being sent between nodes, as evidenced by the passages above. Once again, the Examiner points to the mere reference to, for example, TCAP in Figure 3 of Glitho. Glitho, however, lacks any discussion regarding quality of service in connection with TCAP, let alone setting a quality of service based the signaling message type, e.g., based on whether the message is a TCAP or an ISUP message. Accordingly, Glitho also fails to disclose or suggest setting quality of service parameters based on signaling message type.

Reaves likewise fails to disclose or suggest setting quality of service parameters to be included in SS7 signaling messages sent over a virtual bus based on the signaling message type. There is no mention in Reaves of setting any quality of service

parameters in messages sent over the IP network. Reaves merely states that messages sent between the various STP elements are sent over the IP network. (See col. 6, ll. 56-65 of Reaves.) Thus, because Shmulevich, Reaves, and Glitho, either when taken individually or when combined, fail to teach the invention as claimed, it is respectfully submitted that the rejection of independent claims 1, 25, and 30 and their respective dependent claims should be withdrawn.

Claims 4-6, 10-15, 17-21, 23, 24, 26, 29, 31, 37 and 41-42 stand rejected as unpatentable over Shmulevich, Reaves, and Glitho as applied to claims 1, 25, and 30 and further in view of European Patent Publication No. 1,054,568 to Krishnamurthy (hereinafter, "Krishnamurthy"). This rejection is respectfully traversed.

As discussed above, Shmulevich, Reaves, and Glitho fail to disclose a distributed gateway routing element that determines a quality of service parameter to be included in a call signaling message sent between distributed gateway routing elements based on the message type. Krishnamurthy likewise lacks such disclosure or suggestion. Like Glitho, Krishnamurthy is directed to sending SCCP messages over an underlying IP network. There is no mention in Krishnamurthy of setting any quality of service parameters in the IP messages, not to mention determining quality of service parameters based on the signaling message type. Accordingly, for at least this reason, it is respectfully submitted that the rejection of these claims as unpatentable over Shmulevich, Reaves, and Glitho in view of Krishnamurthy should be withdrawn.

Claims 17-21 were rejected as unpatentable over Shmulevich, Reaves, and Glitho as applied to claims 1, 25, and 30 and further in view of U.S. Patent No.

6,327,267 to Valentine et al. (hereinafter, "Valentine"). This rejection is respectfully traversed.

Claims 17-21 depend from claim 1. As stated above, Shmulevich, Glitho, and Reaves fail to teach or suggest a distributed gateway routing element that determines quality of service to be included in an SS7 call signaling message based on the signaling message type. Valentine also fails to teach or suggest a distributed gateway routing element that determines a quality of service parameter to be included in a call signaling message sent between distributed gateway routing elements based on the signaling message type. Valentine is directed to message routing through a signaling network. There is no mention in Valentine of setting quality of service parameters based on the signaling message type. Accordingly, for at least this reason, it is respectfully submitted that the rejection of these claims as unpatentable over Shmulevich, Reaves, and Glitho in view of Valentine should be withdrawn.

Claims 31, 33-36, 38-40, 43, 45, and 46 were rejected as unpatentable over Shmulevich, Reaves, and Glitho as applied to claims 1, 25, and 30 and further in view of U.S. Patent No. 6,611,532 to Madour et al. (hereinafter, "Madour"). This rejection is respectfully traversed.

Claims 31, 33-36, 38-40, 43, 45, and 46 depend from claim 30. As stated above, Shmulevich, Glitho, and Reaves fail to teach or suggest a distributed gateway routing element that determines quality of service to be included in an SS7 call signaling message based on the signaling message type. Madour also fails to teach or suggest a distributed gateway routing element that determines a quality of service parameter to be included in a call signaling message sent between distributed gateway routing elements

based on the signaling message type. Madour is directed to integrating MPLS into SS7 networks. There is no mention in Madour either of setting quality of service parameters based on the SS7 message type. Accordingly, for at least this reason, it is respectfully submitted that the rejection of these claims as unpatentable over Shmulevich, Reaves, and Glitho in view of Madour should be withdrawn.

### CONCLUSION

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

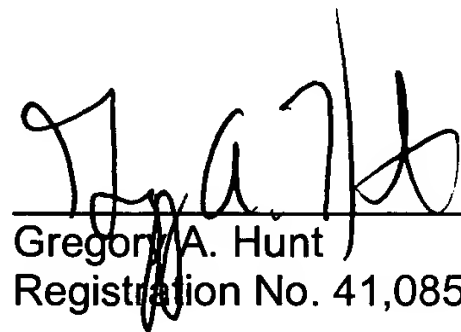
The Commissioner is hereby authorized to charge the amount of \$120.00 or any other fees associated with the filing of this correspondence to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Date: April 13, 2005

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Enclosure